

OPTICAL FIBER HAVING AN ELEVATED THRESHOLD FOR
STIMULATED BRILLOUIN SCATTERING

ABSTRACT OF THE DISCLOSURE

5 An optical fiber having an elevated threshold for stimulated Brillouin
scattering is provided. The optical fiber includes a core and a cladding surrounding
the core with both the core and the cladding designed to guide optical waves through
the core while anti-guiding acoustic waves. Moreover, the optical fiber includes other
features to alter the mode profile of the acoustic waves and/or to further promote their
10 lateral radiation. For example, the optical fiber can include an irregular coating to
alter the mode profile of the acoustic waves. In another example, the optical fiber can
include a quarter wave layer surrounding the cladding to promote the lateral radiation
of the acoustic waves. In order to further alter the mode profile of the acoustic waves,
the cladding can also have a lateral thickness that varies irregularly in a lengthwise
15 direction.

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